WHAT IS CLAIMED IS:

1. A method for decoding a video bitstream at a first resolution, comprising the steps of:

producing residual error frames at a second lower resolution;

producing motion compensated frames at the second lower resolution;

combining the residual error frames with the motion compensated frames to produce video frames; and

up-scaling the video frames to the first resolution.

2. The method of claim 1, wherein the producing residual error frames includes performing an 8X8 inverse discrete transform to produce pixel values.

3. The method of claim 2, wherein the pixel values are sampled at a predetermined rate.

4. The method of claim 1, wherein the producing residual error frames includes performing a 4X4 inverse discrete transform.

5. The method of claim 1, wherein the producing motion compensated frames includes scaling down motion vectors by a predetermined factor to produce scaled motion vectors.

6. The method of claim 5, wherein motion compensation is performed based on the scaled motion vectors.

7. The method of claim 1, wherein the up-scaling is performed

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by a technique selected from a group consisting of repeating pixel values and linear interpolation.

8. The method of claim 1, wherein the up-scaling is performed in a horizontal direction.

9. The method of claim 1, wherein the up-scaling is performed in a same direction as down scaling in the residual error frames.

10. A memory medium including code for decoding a video bitstream at a first resolution, the code comprising:

a code for producing residual error frames at a second lower resolution;

a code for producing motion compensated frames at the second lower resolution;

a code for combining the residual error frames with the motion compensated frames to produce video frames; and

a code for up-scaling the video frames to the first resolution.

11. An apparatus for decoding a video bitstream at a first resolution, comprising:

means for producing residual error frames at a second lower resolution;

means for producing motion compensated frames at the second lower resolution;

means for combining the residual error frames with the motion compensated frames to produce video frames; and

means for up-scaling the video frames to the first resolution.

12. An apparatus for decoding a video bitstream at a first resolution, comprising:

a first path producing residual error frames at a second lower resolution;

a second path producing motion compensated frames at the second lower resolution;

an adder combining the residual error frames with the motion compensated frames to produce video frames; and

an up-scaler increasing the video frames from the second resolution to the first resolution.